



DEPARTMENT OF TRANSPORTATION
MATERIALS TRANSPORTATION BUREAU
WASHINGTON, D.C. 20590

25083

49 CFR Parts 172, 173, 177, 178, and 179

[Docket No. HM-166D; Notice No. 80-6]

**Shipment of Hazardous Materials;
Proposed Miscellaneous Amendments**

AGENCY: Materials Transportation Bureau, Research and Special Programs Administration, DOT.

ACTION: Notice of proposed rulemaking.

SUMMARY: The Materials Transportation Bureau (MTB) is proposing to make several miscellaneous amendments to regulations pertaining to the shipment of hazardous materials. This action is necessary to update the regulations and to reduce MTB's backlog of rulemaking petitions.

DATE: Comments must be received on or before June 15, 1980.

ADDRESS: Address comments to Dockets Branch, Materials Transportation Bureau, U.S. Department of Transportation, Washington, D.C. 20590. It is requested that the docket number be identified and that five copies be submitted. The Dockets Branch is located in Room 8426 of the Nassif Building, 400 7th St., SW., Washington, D.C. Office hours are 8:30 a.m. to 5:00 p.m., Monday through Friday. Telephone (202) 426-3148.

FOR FURTHER INFORMATION CONTACT: Darrell L. Raines, Office of Hazardous Materials Regulation, Materials Transportation Bureau, Research and Special Programs Administration, Washington, D.C. 20590, (202-472-2726).

SUPPLEMENTARY INFORMATION: This document is the fifth of a series of notices and amendments to incorporate changes in the hazardous materials regulations based on either petitions for rulemaking submitted in accordance with 49 CFR 106.31 or on MTB's own initiative. On November 30, 1978, MTB published the first notice of proposed rulemaking under Docket HM-166; Notice 78-11 (43 FR 56070).

In summary, these proposed amendments would (1) require water shipments of Arsine, Chloropicrin and methyl chloride mixture, Cyanogen gas, Germane, Hydrocyanic acid, liquefied, Hydrocyanic acid (*prussic*), solution (5%

or more hydrocyanic acid), and Phosphine to be segregated the same as required for flammable gases. Also, a new entry would be added for Poisonous liquid or gas, n.o.s. having a subsidiary flammable gas hazard; (2) remove Manganese dioxide from § 172.101; (3) correct the packaging reference in column (5)(b) of § 172.101 for Strychnine, solid; (4) change the words "Cargo-only aircraft" to read "Cargo aircraft only" each time they appear throughout the regulation; (5) allow IMCO or United Nations placards on portable tanks, freight containers, motor vehicles and rail cars in addition to the required DOT placards; (6) change the reference to nitrocarbonitrate in § 173.63(a)(3) to read "a material classed as a blasting agent"; (7) revise § 173.93(a)(4) to clearly state that two distinct packaging systems are authorized; (8) delete all references to "asbestos" as a cushioning material; (9) increase the maximum drum capacity to

60 gallons in § 173.178(a)(1); (10) delete the reference to Specification 28A in § 173.191(a)(4); (11) delete the reference to Specification 28 in § 173.245(a)(8) and Specification 43A in § 178.245(a)(11); (12) allow all of the commodities named in § 173.249 to be shipped by aircraft under the provisions of § 173.249(b); (13) authorize the use of a strong metal can instead of a tinplate slip cover metal can in § 173.252(g)(3); (14) delete the reference to a cancelled specification in § 173.253(a)(2) and add Specification 1M; (15) delete the reference to Specification 43A in § 173.257(a)(2); (16) revise certain paragraphs in § 173.264 by removing obsolete packagings; (17) remove the restriction in § 177.838(a) requiring shipments of flammable solids or oxidizing materials to be covered by a tarpaulin when in water-tight bulk containers; (18) add a new § 178.0-3 to allow packagings to be marked with the United Nations symbol and packaging identification code as provided in Annex I of the IMCO Code and (19) revise § 179.201-7(b) by increasing the vent bursting pressure to not more than 100 percent of tank test pressure.

Primary drafters of this document are Darrell L. Raines, Exemptions and Regulations Termination Branch, Office of Hazardous Materials Regulation, and George W. Tenley, Office of the Chief Counsel, Research and Special Programs Administration.

Since this is a miscellaneous notice, it is not practical to group these proposed changes by subject area as stated in the preamble of the first HM-166 notice. Instead, a format similar to the one used for Docket Ho. HM-139 is being used.

Proposed Amendments of Hazardous Materials Regulations

regulation affected	Reason(s) for proposed change	Proposed amendment
§ 172.101	To specify in Column (7)(c) of the Hazardous Materials Table that segregation must be the same as for flammable gases for each of the following commodities: Arsine Chloropicrin and methyl chloride mixture Cyanogen gas Germane Hydrocyanic acid, liquefied Hydrocyanic acid, solution Phosphine [Add] Poisonous liquid or gas, n.o.s.	To revise Column (7)(c) of § 172.101 by adding "Segregation same as for flammable gases" for: Arsine Chloropicrin and methyl chloride mixture Cyanogen gas Germane Hydrocyanic acid, liquefied Hydrocyanic acid, solution Phosphine [Add] Poisonous liquid or gas, n.o.s.
§ 172.101, Strychnine, solid	Column (5)(b) of the Hazardous Materials Table incorrectly references § 173.377 instead of § 173.365.	To revise Column (5)(b) of § 172.101 to read § 173.365 instead of § 173.377 for Strychnine, solid.
§ 172.101, Manganese dioxide	Test data furnished by Kerr-McGee Chemical Corp., indicates that Manganese dioxide, is not a corrosive when wet, to either aluminum or steel and it does not come within any of the other defined classes of hazardous material. Also, Manganese dioxide has been removed from the Restricted Articles list of the International Air Transport Association (IATA) and the Air Transport Association of America.	To delete Manganese dioxide from § 172.101.
§ 172.203(f)	To eliminate the inconsistency between 49 CFR § 172.203(f) which requires the words "Cargo-only aircraft" to be entered after the basic description and international standards which specify that air waybill be marked "Cargo aircraft only". The MTB intends to change "Cargo only aircraft" to read "Cargo aircraft only" each time it appears throughout the regulations in the final rulemaking to this notice.	To revise § 172.203(f) to read: (f) <i>Transportation by air</i> : When a package containing a hazardous material is offered for transportation by air and this subchapter prohibits its transportation aboard passenger-carrying aircraft, the words "Cargo aircraft only" must be entered after the basic description.
§ 172.502	To allow the use of IMCO or United Nations placards in addition to the required DOT placards on portable tanks, freight containers, motor vehicles and rail cars.	To revise the introductory text of § 172.502(a) and to add paragraph (c) to read: (a) Except as provided in paragraph (c) of this section, no person may affix or display on a portable tank, freight container, motor vehicle or rail car any placard described in this subpart unless— (c) The restriction in paragraphs (a) and (b) of " section does not apply to portable tanks, freight tainers, motor vehicles or rail cars placarded in formance with—(1) Any United Nations recommendation in the document entitled "Transport of Dangerous Goods, (1977)" or (2) The requirements of the International Maritime Dangerous Goods Code (IMCO Code).
§ 173.63(a)(3)	To delete the reference to nitrocarbonate and replace it with the words "a material classed as a blasting agent". This change was inadvertently omitted by Docket HM-143.	To revise § 173.63(a)(3) to read: (3) Specification 23F or 23H (§ 178.214 or § 178.219 of this subchapter). Fiberboard boxes having one inside 26-gauge metal container, measuring not over 8 inches in diameter and 31 inches long, containing high explosives (ammonium dynamite core) surrounded by a material classed as a blasting agent. Authorized gross weight not to exceed 65 pounds.
§ 173.93(a)(4)	Referenced paragraph authorizes certain Class B explosives to be shipped in tight metal cases in tight wooden boxes free from loose knots and cracks or tight metal containers. Gross weight not to exceed 200 pounds. Confusion exists as to whether a two part packaging system is required or whether two distinct packaging systems are authorized.	To revise § 173.93(a)(4) to read: (4) Tight metal cases in tight wooden boxes, not over 200 pounds gross weight; or tight metal containers not over 200 pounds gross weight.
§ 173.157(a)(3)	To delete the reference to asbestos as an authorized cushioning material. This action is necessary because asbestos is now listed as a hazardous material in 49 CFR.	To revise § 173.157(a)(3) to read: (3) Specification 12B (§ 178.205 of this subchapter). Fiberboard box with inside fiber containers securely closed by taping or gluing, or with securely closed inside paper bags lined with polyethylene at least 0.002 inch thick. Net weight (dry weight) in each inside container may not exceed 1 pound. Except for peroxy peroxide, wet, each inside container must be surrounded by an appropriate fire-resistant cushioning material. Gross weight in specification 12B65 fiberboard boxes may exceed 65 pounds, but may not exceed 80 pounds, provided the net weight (dry weight) of the contents does not exceed 50 pounds.
§ 173.157(a)(5)	To delete the reference to asbestos as an authorized cushioning material.	To revise § 173.157(a)(5) to read: (5) Specification 12B (§ 178.205 of this subchapter). Fiberboard box with securely closed inside plastic containers made of polyethylene film at least 0.004 inch thick. Net weight (dry weight) in each inside container may not exceed 25 pounds. Each inside container must be surrounded by an appropriate fire-resistant cushioning material. Authorized only for benzoyl peroxide.
§ 173.157(b)(1)	To delete the reference to asbestos as an authorized cushioning material.	To revise § 173.157(b)(1) to read: (1) Specification 12B (§ 178.205 of this subchapter). Fiberboard box with securely closed inside paper bag lined with polyethylene at least 0.002 inch thick weight (dry weight) in each bag may not exceed 1 pound. Each bag must be surrounded by an appropriate fire-resistant cushioning material.

Proposed Amendments of Hazardous Materials Regulations—Continued

Regulation affected	Reason(s) for proposed change	Proposed amendment
§ 173.157(b)(3)	To delete the reference to asbestos as an authorized cushioning material.	To revise § 173.157(b)(3) to read: (3) Specification 12B (§ 178.205 of this subchapter). Fiberboard box with securely closed inside plastic containers made of polyethylene film at least 0.004 inch thick. Net weight (dry weight) in each inside container may not exceed 25 pounds. Each inside container must be surrounded by an appropriate fire-resistant cushioning material. Net weight (dry weight) in each outside box may not exceed 50 pounds.
§ 178.158(a)(1)	To delete the reference to asbestos as an authorized cushioning material.	To revise § 173.158(a)(1) to read: (1) Specification 15A or 15B (§ 178.168 or § 178.169 of this subchapter). Wooden boxes, with inside fiber containers securely closed by taping or gluing, or inside securely closed paper bags lined with 0.002 inch thick polyethylene, not over 1 pound capacity each. Except for lauroyl peroxide, dry, each inside container must be surrounded by an appropriate fire-resistant cushioning material. Net weight in outside container must not exceed 50 pounds, except that for lauroyl peroxide, dry, net weight not over 100 pounds is authorized.
§ 173.158(a)(3)	To delete the reference to asbestos as an authorized cushioning material.	To revise § 173.158(a)(3) to read: (3) Specification 12B (§ 178.205 of this subchapter). Fiberboard boxes, with inside fiber containers securely closed by taping or gluing, or inside securely closed paper bags lined with polyethylene not less than 0.002 inch thick, not over 1 pound capacity each. Except for lauroyl peroxide, dry, each inside container must be surrounded by an appropriate fire-resistant cushioning material which will protect the contents with equal efficiency. Gross weight in Spec. 12B65 boxes may be more than 65, but not more than 80 pounds, provided net weight of content does not exceed 50 pounds.
§ 173.178(a)(1)	To authorize shipments of calcium carbide in water-tight metal drums having a maximum rated capacity of 60 gallons instead of 55 gallons. Information on file from the Union Carbide Corporation indicates that calcium carbide drums in current use are rated at 58 gallons and hold 800 pounds net weight.	To revise the last sentence in § 173.178(a)(1) to read: Maximum rated capacity may not exceed 60 gallons.
§ 173.191(a)(4)	To delete the reference to cancelled Specification 28A. Specification 1B, 1C, 1E, 2B, 28A, 31, 34B, and 43A, were deleted from Part 178 by HM-117 on March 12, 1979 and in some instances certain specification references were inadvertently omitted in Part 173.	To delete § 173.191(a)(4).
§ 173.245(a)(8)	To delete the reference to cancelled Specification 28.	To delete § 173.245(a)(8).
§ 173.245(a)(11)	To delete the reference to cancelled Specification 43A.	To delete § 173.245(a)(11).
§ 173.249(a)	To list all of the commodities named in § 173.249(a) in paragraph (b) of that section.	To revise § 173.249(b) to read: Alkaline corrosive liquids, n.o.s.; alkaline liquids, n.o.s.; alkaline corrosive battery fluid; potassium fluoride solution; potassium hydrogen fluoride solution; sodium aluminate, liquid sodium hydroxide solution, potassium hydroxide solution, and boiler compound, liquid solution, when offered for transportation by aircraft, must be packaged as follows (also authorized for transportation by rail freight, highway or water). To revise the second sentence in § 173.252(g)(3) to read: Each bottle must be enclosed in a strong metal can surrounded by incombustible cushioning material.
§ 173.252(g)(3)	To authorize the use of other types of metal cans in addition to the presently authorized tinplate slipcover metal can. The present wording was taken from two special permits which were issued in 1961 and 1966 and is now considered to be more restrictive than needed for safety reasons.	To revise § 173.253(a)(2) to read: (2) Specification 1M (§ 178.17 of this subchapter). Glass carboys in expanded polystyrene packagings. Not authorized for transportation by aircraft.
§ 173.253(a)(2)	To delete the reference to a cancelled specification and to add an authorization to use DOT Specification 1M glass carboys.	To delete § 173.257(a)(2).
§ 173.257(a)(2)	To delete the reference to cancelled Specification 43A.	To revise § 173.261(b)(2) to read: (2) Fire-extinguisher charges, consisting of chloro-sulfonic acid in a hermetically sealed bottle not exceeding 2 ounces capacity, securely packed in a metal container inclosed in another metal container, the inner metal container being cushioned in the outer metal container with an appropriate fire-resistant cushioning material and the completed package embedded in potassium carbonate in outside fiberboard or wooden boxes.
§ 173.261(b)(2)	To delete the reference to asbestos as an authorized cushioning material.	To delete § 173.264(a)(1).
§ 173.264(a)(1)	To remove obsolete packagings. The MTB believes that DOT Specification 15A, 15B, 15C, 16A, and 19A packagings are not being used in this service.	To delete § 173.264(a)(7) and Notes 2, 3, 4, and 5.
§ 173.264(a)(7) and notes thereto	To remove obsolete packaging. The MTB believes that DOT Specification 5A is not being used in this service.	

Proposed Amendments of Hazardous Materials Regulations—Continued

Regulation affected	Reason(s) for proposed change	Proposed amendment
§ 173.264(a)(8)	To remove obsolete packagings. The MTB believes that DOT Specification 103A, 105A100, and ARA-IV tank cars are not being used in this service.	To revise § 173.264(a)(8) to read: (8) Specification 103AW, 105A100W, 111A100F, 111A60W2, 111A100W4 (§§ 179.100, 179.101, 179.200, 179.201 of this subchapter). Unlined met tanks which have been subjected to adequate passivity or neutralization process. (See Note 1 to paragraph (a)(7) of this section). Authorized only for hydrofluoric acid of 80 to 80 percent strength. If tanks are washed out with water they must be resubjected to passivity before reshipment.
§ 173.264(a)(10) and notes thereto	To remove obsolete packagings. The MTB believes that DOT Specification 5D is not being used in this service.	To delete § 173.264(a)(10) and Notes 1, 2, and 3.
§ 173.264(a)(11)	To remove obsolete packagings. The MTB believes that DOT Specification 103B is not being used in this service.	To revise § 173.264(a)(11) to read: (11) Specification 103BW, 111A100W4, c 111A60W5 (§§ 179.200, 179.201 of this subchapter). Tank cars, rubber-lined tanks. Authorized only for acid not over 40 percent strength except Specification 111A100W4 tanks are authorized only for acid of 70 percent strength.
§ 173.264(a)(18)	To remove inside Specification 2TL and add specification 2U. The MTB believes that the 2TL container is not being used in this service. However, the MTB has issued four exemptions authorizing the use of Specification 12P with two inside specification 2U polyethylene containers of not over 2½-gallon capacity each.	To revise § 173.264(a)(18) to read: (18) Specification 12P (§ 178.211 of this subchapter). Fiberboard boxes with one inside specification 2U (§ 178.24 of this subchapter) polyethylene container of not over 5-gallon capacity or two inside specification 2U polyethylene containers of not over 2½-gallon capacity each. Authorized only for acid of 48 to 52 percent.
§ 173.266(c)(4)	To delete the reference to asbestos as an authorized cushioning material.	To revise § 173.266(c)(4) to read: (4) Spec. 15A, 15B, 15C, 16A, or 19A (§§ 178.168, 178.169, 178.170, 178.185, or § 178.190 of this subchapter). Wooden boxes with inside container polyethylene, or other plastic material resistant to lading, not over 1 pint capacity or 16 ounce weight each. Inside containers must be securely cushioned with an appropriate fire-resistant cushioning material.
§ 173.267(c)(3)	To delete the reference to asbestos as an authorized cushioning material.	To revise § 173.267(c)(3) to read: (3) Each bottle must be placed in a tightly closed metal container and well cushioned therein on all sides with incombustible mineral packing material, such as whiting, mineral wool, infusorial earth (kieselguhr), sifted ashes or powdered china clay, etc. The metal container must be packed in the outside container, and well cushioned by incombustible mineral packing material.
§ 173.268(h)	To delete the reference to asbestos as an authorized cushioning material.	To revise § 173.268(h) to read: (h) Cushioning inside containers. Inside containers must be well cushioned. Except as provided in subparagraph (1) of this paragraph, all material for cushioning must be incombustible mineral material such as whiting, mineral wool, infusorial earth (kieselguhr), sifted ashes, etc. The use of hay, excelsior, ground cork, or similar material, whether treated or untreated, is prohibited. Where the cushioning material is very fine or powdery, separate partitions for the individual inside containers shall be provided to prevent the bottles from shifting and coming in contact with each other, and the box must be tight to prevent sifting of cushioning material.
§ 173.268(i)(3)	To delete references to asbestos as an authorized cushioning material.	To revise § 173.268(i)(3) to read: (3) Each bottle must be placed in a tightly closed metal container, and well cushioned therein on all sides with incombustible mineral packing material, such as whiting, mineral wool, infusorial earth (kieselguhr), sifted ashes, or powdered china clay, etc. The metal container must be packed in outside containers, and well cushioned by incombustible mineral packing material.
§ 173.269(e)	To delete the reference to asbestos as an authorized cushioning material.	To revise § 173.269(e) to read: (e) Inside containers must be well cushioned. All material for cushioning must be incombustible mineral material, such as whiting, mineral wool, infusorial earth (kieselguhr), sifted ashes, or powdered china clay, etc. The use of hay, excelsior, ground cork, or similar material either treated or untreated, is prohibited. Where the cushioning material is very fine or powdery, separate partitions for the individual inside containers should be provided to prevent the bottles from shifting and coming in contact with each other, and the box must be tight to prevent sifting of cushioning material.
§ 173.271(a)	To authorize the shipment of phosphorus oxychloride in DOT Specification 1M glass carboys. This commodity is presently being shipped in a similar type of packaging under DOT-E 4390.	To add paragraph (19) to § 173.271(a) to read: (19) Specification 1M (§ 178.17 of this subchapter). Glass carboys in expanded polystyrene packagings. Authorized only for phosphorus oxychloride. Not authorized for transportation by aircraft.

Proposed Amendments of Hazardous Materials Regulations—Continued

Regulation affected	Reason(s) for proposed change	Proposed amendment
§ 173.274(a)(1), Note 1	To delete the reference to asbestos as an authorized cushioning material.	To revise Note 1 in § 173.274 to read: NOTE.—Bottles manufactured of Pyrex glass or glass of equal acid resistance, authorized only for material containing an excess of sulfur trioxide, with Pyrex glass stoppers, or glass stoppers of equal acid resistance, ground to fit and held in place by plaster of Paris covered by strong cloth securely tied; each bottle must be placed in a metal container, well cushioned therein with an appropriate fire-resistant cushioning material.
§ 173.287(b)(4)	To delete the reference to asbestos as an authorized cushioning material.	To revise § 173.287(b)(4) to read: (4) Specification 12A or 12B (§§ 178.210, 178.205 of this subchapter). Fiberboard box with one inside glass container not over 4 fluid ounces capacity, packed in a wax-lined cylindrical fiber carton with metal ends. The bottle closure must consist of a tightly secured, fitted, ground glass stopper. Space between the bottle and the inner surface of the fiber cylinder must be filled with an appropriate fire-resistant cushioning material in sufficient quantity to completely absorb the contents of the bottle in the event of breakage. Not authorized for solutions containing nitric acid.
§ 177.838(a), Last sentence	To delete the requirement that motor vehicles transporting flammable solids or oxidizing materials have to be covered by tarpaulins or other suitable means when in water-tight bulk containers.	To amend § 177.838(a) by changing the last sentence to read: Shipments in water-tight bulk containers do not have to be covered by a tarpaulin.
§ 178.172-18	To correct two typographical errors.	To revise § 178.172-18(a) to read: (a) Box shall be securely closed. Nails, if used, shall be as prescribed in §§ 178.172-9, 178.172-10, 178.172-11, and 178.172-12.
§ 178.0-3	An amendment to the IMCO Code which became effective on March 1, 1980, provides for the marking of a United Nations (UN) symbol and packaging identification code on packagings. The purpose of these markings is to certify compliance with the packaging testing and construction provisions contained in Annex I of the IMCO Code. While the United States does not require the application of these markings, or consider this marking provision to apply to existing types and designs of packagings (which may continue in use under the "grandfather" provision of the preamble of Annex I to the IMCO Code) it is, nevertheless, likely that many shippers and packaging manufacturers will desire to apply the UN symbol and packaging identification code to packagings in order to facilitate the movement of these packagings in international transportation.	To add § 178.0-3 to read: § 178.0-3 United Nations symbol and packaging identification code. In addition to the markings required by this subchapter, packagings may be marked with the United Nations symbol and packaging identification code as provided in Annex I of the IMCO Code, provided the person applying these markings has established that the packaging conforms to the applicable provisions of Annex I of the IMCO Code.
§ 179.201-7(b), First sentence	To increase the vent bursting pressure to not more than 100 percent of tank test pressure.	To revise the first sentence of § 179.201-7(b) to read: (b) Safety vents, if used, shall be of approved design, at least 1-3/4 inches inside diameter, made of material not subject to rapid deterioration by the lading, and closed with a frangible disc of lead or other approved material of a thickness that will burst at not more than 100 percent of tank test pressure.

(49 U.S.C. 1803, 1804, 1808; 49 CFR 1.53, App. A to Part 1 and paragraph (a)(4) of App. A to Part 106)

Note.—The Materials Transportation Bureau has determined that this document will not have a major impact under Executive Order 12044 and DOT implementing procedures (44 FR 11034), nor an environmental impact under the National Environmental Policy Act (49 U.S.C. 4321 et seq.). A regulatory evaluation is available for review in the docket.

Issued at Washington, D.C., on April 7, 1980.

Alan I. Roberts,

Associate Director for Hazardous Materials Regulation, Materials Transportation Bureau.

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